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# ICT Update

a current awareness bulletin for ACP agriculture

CTA
http://ictupdate.cta.int

Audio updates increase the audience of a **pan-African** news service

Podcasting extends a technology network in the **Caribbean**

**Peruvian** farmers informed by a mix of old and new technologies

# Podcasting

Contents




**ICT Update**

*ICT Update* issue 37, June 2007. *ICT Update* is a bimonthly printed bulletin with an accompanying web magazine (http://ictupdate.cta.int) and email newsletter. Each issue of *ICT Update* focuses on a specific theme relevant to ICTs for agricultural and rural development in African, Caribbean and Pacific (ACP) countries, and includes feature articles and annotated links to related web resources and projects. The next issue will be available in August.

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**http://ictupdate.cta.int**


# Editorial

## A new way to reach rural communities

Podcasting has been around since 2004 but it is still very much at the experimental stage when it comes to applying it to development efforts. In this issue we highlight some early initiatives from organizations currently testing the technology, and so far their results are all very positive. By using audio – speech and music – there is no need for expensive printing or distribution costs since the podcast can be downloaded from a single, central site on the web. In fact, the term podcasting is now commonly used to include the general distribution of audio files over the Internet, but it is this fact that podcasting uses audio that makes it so interesting. Like radio, it can overcome problems of literacy, but a radio programme is transient – if you miss the programme you miss the information.

Having important information available that can be played, and even replayed, at any time means there is less chance of the message becoming confused or misinterpreted, making it ideal for agricultural extension work. Podcast updates can be automatically downloaded if the user subscribes to the podcasting service, which then provides the most up-to-date information available. Previous podcasts can also be archived on the provider's website allowing users to download only the information they need, when they need it. Although a computer or media player, an mp3 player or an iPod is needed to listen to a podcast, the prices of these devices are falling sharply while their storage memories, ease of use and battery life are all rapidly improving.

To date, however, there are very few podcasting projects related specifically to development. We feature an interesting initiative from the Cajamarca region of Peru. There, the UK organization, Practical Action, is working with several local partners to distribute targeted messages to farmers. Local information centres automatically download the programmes, which are then burned onto audio CD or rebroadcast by local radio stations. Research done in these early stages suggests that this pilot project has been a success, due largely to this mix of old and new technologies.

Using a variety of platforms is also how UNICEF ensures that people can still find their information when they want it. Even an organization as large as UNICEF risks losing its stories among the millions of websites, radio and TV broadcasts. Stephen Cassidy, chief of the Internet, television, radio and image section, explains how podcasting is helping to keep audiences informed, and how its archives extend the 'life' of their radio programmes.

Podcasting provides an outlet for the hugely popular pan-African news service, *Pambazuka News*, published by Fahamu (Networks for Social Justice). It started off as a weekly email containing web links for social justice activists with slow or limited Internet access, but has now expanded to offer professional sounding podcasts on a range of subjects. Firoze Manji, director of Fahamu and editor of *Pambazuka News*, describes the potential for podcasting in Africa and the learning process Fahamu has gone through.

Producing podcasts is getting easier and cheaper too. At the moment most podcasts originate in Western countries but, as Susie Emmett, a communications specialist with WRENmedia, tells us in our Q&A section, it will soon be cost effective for rural communities to produce their own podcasts. These can be in the appropriate local language and used to provide information relevant to local problems, increasing the chance that the right information gets to the right people.

All the contributors to this issue emphasize the importance of speech as a communication tool, using radio as an example and pointing to the spread of mobile phones, even among poor communities in remote areas. Podcasting, and the distribution of audio files on small, portable media players, provides another method of disseminating information to rural and farming areas. The technology is still relatively new so it remains to be seen exactly how it will be used for development. But as the technology gets easier to use and becomes more affordable, it is likely that we will see much more podcasting in the coming years. It will become another useful addition to the whole ICT package. ■

**Andy Carvin** (www.andycarvin.com) is the former director of the Digital Divide Network, an Internet community for educators, activists, policy makers and concerned citizens. Andy also writes regularly on ICT for Development in his blog 'Andy's Waste of Bandwidth'.

# Information on demand

## ...even if you don't have broadband

When podcasting first started, most of the focus was on creating a new form of Internet radio that could be distributed and saved. You don't have to be online at a particular time to listen to your favourite programme as is the case with streaming media, where a broadcast is carried simultaneously on the Internet. Podcasting embraced the idea of 'time-shifting', similar to what video did for TV in the late 1970s, in that you could record a programme and watch it when you wanted. But podcasting is slightly different; you don't have to constantly check the website to see if a new file has been produced. Podcasting works by notifying you whenever a new file has been created and saving it automatically onto your portable mp3 player or computer. This makes podcasting another source of information, another outlet, where people can get access to what's going on, from local news stories and crop prices to educational material provided by one school that could be interesting for another. The possibilities are endless.

Because it creates material that can be saved and passed around, podcasting raises some interesting possibilities, even for people in communities with limited Internet access. For example, a couple of years ago in Ghana, I taught university students and journalists to create podcasts of their own. One of the breakthrough moments for them was when they realized that a podcast didn't have to be 60MB in size, it could be only one or two megabytes and still contain a lot of information. It wouldn't have the audio quality or the resolution that broadband Internet users might expect, but that doesn't make it any less educationally or socially useful.

Podcasting and video blogging have now become industries of their own. Many people invest large amounts of money to make broadcast-quality podcasts, but it is possible to use a computer with a microphone plus free, open source recording software and open source blogging software to post your podcast. And it doesn't have to be difficult or expensive, you make your podcast just as complicated as you want.

### Mobcasting

It is even possible to create a podcast from a mobile phone call. You simply leave a voice-mail message which is automatically converted to an audio file. You can't edit it very easily but if you are looking to get something recorded and online quickly, then mobile phone podcasting is a very cheap way of doing that. This has also been termed mobcasting and could become useful where coordinated groups of people get together and produce content that could be shared among the group or with others. For example, if one member of a farmers' cooperative is at the market he can give a quick update on crop or cattle prices via his mobile phone. This would go back to a central information point, such as the office of the cooperative, possibly hundreds of kilometres away. There the file can be edited or taken in its raw form. This new podcast can be updated automatically onto a portable audio player and taken to other members of the cooperative in a relatively short space of time.

In the very near future, when mobile devices are even cheaper and have an even greater amount of storage space and broadband access – and we're reaching that point in Western countries now – podcasting could become a form of wireless broadcasting which could be 'time-shifted' and listened to whenever you want. In the context of the developing world, however, we're not going to see that kind of bandwidth or infrastructure any time soon. But that doesn't mean podcasting isn't relevant to developing economies. The concept of podcasting began because bandwidth was scarce. You could leave your computer on overnight or go off to make dinner, and the specific podcasts you are interested in would be downloaded. You could then listen to them later, on your way to work, in the evenings or whenever it is most convenient to you.

A lot of people have experimented in podcasts that target local audiences in the developing world. The material they create is culturally and linguistically relevant. Information is produced in the local language and contains messages appropriate to the local situation, on specific crop production, for example, in a specific region. These can be distributed on small, very portable audio players, by local agricultural extension officers, to be played either to a group or by an individual at a time of their choosing. They could also be optimized for local bandwidth constraints and downloaded by those who already have Internet access. By encouraging people to create podcasts at such a local level you are creating a repository of knowledge that will be of benefit to these communities who will no longer have to rely on what is being produced in the West. And that is an enormous potential benefit. It is important therefore, that people are given the tools and the skills to produce those podcasts locally. ■

### What is a podcast?

A podcast is a radio-style programme that can be downloaded from the internet and listened to on a computer or an mp3 player or burned onto a CD. Users can subscribe to a podcast, often for free, and have new episodes of their favourite programmes automatically downloaded to their computer. Portable media players mean that podcasts can be listened to at any time, anywhere, and many times. Podcasts already cover a huge range of topics, including music, news, travel information, lectures, language courses, story telling, stock exchange reports, weather, travel, and anything else you can think of. Some podcast providers may offer access to downloadable or streaming audio and video files. However, a genuine podcast is distinguished from other media formats in that its content can be syndicated via rss or newsfeeds – once users subscribe to such feeds, they will automatically receive regular updates. Read about what it takes to make a podcast in the TechTip on page 11.

Feature

# Pan-African podcasting

The popular newsletter, Pambazuka News is using new media to reach an even larger audience. Presenting information that can be watched or listened to will have a greater impact for its audience of social justice activists throughout Africa.

*Pambazuka News* is 300 issues and six years old and has an audience of around half a million readers. Produced by Fahamu (Networks for Social Justice), this pan-African weekly electronic newsletter has become one of the principal platforms for analysis, debate and discussion on issues related to the struggle for social justice in Africa. Last year, *Pambazuka News* featured 300 articles, written by 270 African authors, alongside 40,000 items of news, information and analysis available for free on the website.

Fahamu launched *Pambazuka News* to enable activists throughout Africa, working in different sectors, to discuss, debate and share information. It started by sending articles and summaries of key websites via email, as a way of bringing the web to those in Africa where poor bandwidth and connectivity make web access slow, frustrating and expensive. In fact, because this remains a problem for many people, *Pambazuka News* still goes out as an email every Thursday and Friday.

Given that *Pambazuka News* has been driven by the recognition of the constraints of poor bandwidth, it may seem curious that we have sought to produce bandwidth-hogging podcasts and videocasts. So why have we gone down that route?

## Audience reach

Audiovisual media offer powerful means for enabling the voices of the oppressed and marginalized to be heard. We saw the potential for a pan-African service that could be developed without the need to negotiate licences or having to deal with the limitations imposed on commercial broadcasters. It could serve a wide audience and provide a perspective that is usually ignored by mainstream media. If someone had said to us six years ago that we would be reaching nearly half a million readers via the newsletter without forging an alliance with mainstream media magnates, we would have called them crazy. Yet that is what we've done. Could we pull off the same 'trick' with broadcasting over the internet?

Podcasting has the potential to enable activists and ordinary citizens engaged in the struggle for social justice, to plan, produce and edit their own 'broadcasts' without an interpretive or interfering intermediary, as happens so often in the mainstream media (whether written or broadcast). Given such developments, we felt it was important to encourage and support others in Africa who might either be using, or wanting to use new media, to make their voices heard. We were aware, of course, that current bandwidth constraints would preclude many people who already have internet access, from benefiting immediately. However, there are signs that this situation is likely to change significantly, especially for those in the main African cities, as the increasing investment in infrastructure is improving bandwidth and lowering the cost of access.

## Experiment

Our experiments with podcasting began in September 2006, in a project supported by Hivos, a donor NGO in the Netherlands. We wanted to complement a series of *Pambazuka News* special issues with a series of programmes on trade and justice. The task proved more difficult than we imagined. When we started, we naively thought that all we needed to do was to have someone read out some of the excellent articles published in *Pambazuka News*. We published a couple of podcasts of this kind, but the results were lacklustre. It was clear that what is produced for one medium (the written word) cannot be translated into another medium. The requirements of each medium are radically different.

To publish podcasts of a reasonable quality it was obvious that we needed to be clear about the specific aims and objectives of the programme, the message to be conveyed, and the target audience. We would also need:

- a capable interviewer who knows the subject and understands the need to keep the production short,
- high-quality digital recording equipment,
- an understanding of how to reduce the effects of extraneous noise, especially in places where a studio is not available,
- people with good post-production skills to convert content into recognizable programmes, complete with introductions, music, ending sequences, etc.
- facilities for uploading and disseminating the programmes (e.g. iTunes, a software programme for managing content on Apple iPod media players), and

SEAN SPRAGUE

FAHAMU

Robtel Neeajai Pailey from Pambazuka News in action interviewing for a podcast.

• a competent tagging system to enable others to find the podcast on the internet.

In essence, the facilities, equipment and skills needed to produce a podcast are little different from those required to make traditional radio programmes. But we also needed to understand the requirements of podcasting and the internet. None of us had any real experience when we started: we first had to find people who had the technical knowledge, and we needed time to experiment and learn. Fortunately, we established a relationship with the founders of Raised Voices, a project that enables marginalized people to speak out about environmental and social injustice by using short film clips. They helped us to learn the skills involved. And practice, combined with advice from experienced people, is critical.

## Cooperation and distribution

What we are doing with new media at the moment is still only an experiment. We are engaged in a learning process that might allow us, over time, to share our experience with others. In launching our initiative, our intention was not merely to produce broadcasts ourselves. One of the keys to the success of *Pambazuka News* has been our policy of providing a platform for content produced by others. We have consciously avoided the temptation to use *Pambazuka News* to present our own voices. The same applies to the podcasts and videocasts – we want to provide a vehicle for material produced by others, to be used and reviewed by others. At present very few organizations in Africa have developed such material, but we hope that our initiative will stimulate them to experiment. We are already developing collaborations with organizations specializing in new media, such as the Johannesburg-based Community Media for Development (CMFD), with the aim of running training programmes for other social justice organizations in Africa.

In the last nine months we have published about 20 podcasts (and a couple of videocasts). These have mostly been interviews with grassroots activists, poets and artists, with some music and poetry. We also feature music from a variety of African artists which we include as a means of publicizing their work. The audience for these podcasts has been limited, with an average of 250 downloads from the website per podcast. But we have also distributed CD-ROMs, with broadcast quality files, to community radio stations in Africa and elsewhere. There are a growing number of websites that also distribute our podcasts, and we plan to cooperate with the US human rights organization, Witness, to provide content for their soon-to-be-launched project, The Hub. To date, we have broadcast two videocasts, one related to land reclamation by the descendants of African slaves in Brazil, and another on a poetry workshop held in Zimbabwe. They have averaged about 1000 downloads, but our experience in the use of video remains limited.

Our plans now are to develop further materials on women's rights in Africa. Our own organization, Fahamu, together with the Nairobi-based African Women's Development and Communication Network (FEMNET) recently convened a meeting of 15 representatives of community radio stations in West and East Africa to plan out the details of a series of radio programmes based on the African Union Protocol on the Rights of Women. The themes to be developed include: women's participation in politics; violence against women; marital rights; and reproductive rights and HIV/Aids. Our intention is to develop radio plays and current affairs programmes that will be broadcast via both mainstream media and through community radio stations, as well as being made available over the internet. ■

**Firoze Manji** (firoze@fahamu.org) is director of Fahamu – Networks for Social Justice (www.fahamu.org) and editor of Pambazuka News (www.pambazuka.org)

**More information**

Pambazuka podcasts and videocasts
➜ **www.pambazuka.org/en/broadcasts**
Community Media for Development (CMFD)
➜ **www.cmfd.org**
Hivos
➜ **www.hivos.nl**
Raised Voices
➜ **www.raisedvoices.net**
Witness
➜ **www.witness.org**
African Women's Development and Communication Network (FEMNET)
➜ **www.femnet.or.ke**

# Extending networks with podcasting in the Caribbean

The Trinidad and Tobago Computer Society uses podcasts to keep their members informed of the latest local technology stories.

In the ten years of its existence the Trinidad and Tobago Computer Society (TTCS) has grown from a small group of 'techies' to a collective of IT professionals, business people, students and basically anyone interested in computers. The society holds regular 'tech-meetings' where we discuss a specific topic, usually computer hardware or software demos. We also have more informal discussions where we eat pizza and chat about computer-related topics. We call those PizzaLimes. It is never possible for everyone to attend every meeting, they are either too busy or they live too far away. But our members still want to keep up-to-date with what goes on. We add notes on each meeting to our website but we still get emails from people saying they wish they could have been there to discuss a particular topic.

At one meeting the subject was podcasting because the former hosts of TechTV began their podcast 'This Week In Tech' and locally, Georgia Popplewell started her 'Caribbean Free Radio' podcasts. At our meeting, it was suggested that maybe we could produce our own podcasts so that people could 'virtually attend' the meetings and, more importantly, they could attend in their own time.

It seemed like a good solution. We could blend the topics discussed in our informal meetings and the tech-meetings into one recording and members who missed the meeting would at least be able to follow the general discussion. It would also be useful to the people who could attend regular meetings as the podcasts are always recorded later when current events may have changed or the story has developed in the time between the meetings and the recordings.

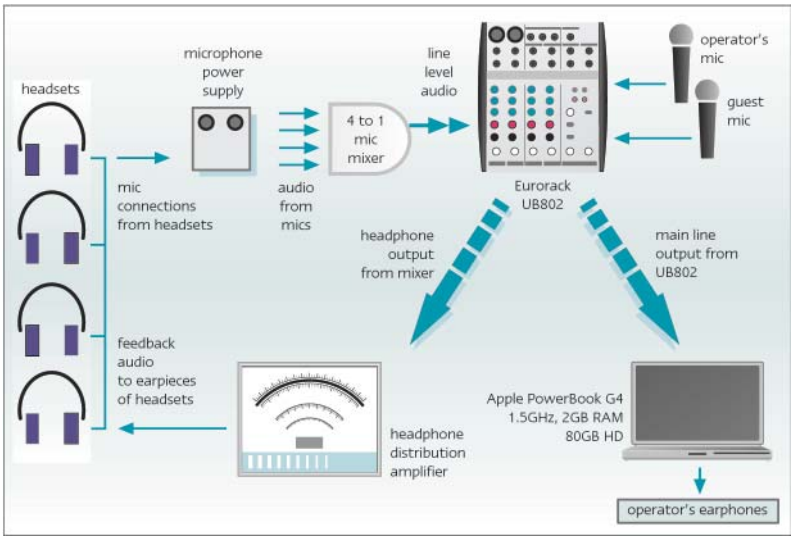
By providing an RSS feed for the podcasts on our website, our members living in remote or rural areas can still keep in touch by receiving automatic downloads whenever a new podcast is produced. It helps those who can't get to the meetings to get a sense of the topics that have been discussed. The motto, after all, of TTCS is 'networking computer users'.

## Inexpensive

When we began none of our members had any previous experience with podcasting so we had to learn fast. Help came from Georgia Popplewell, of Caribbean Free Radio, who showed us how the podcasts were put together. She introduced us to the basic process and gave us enough knowledge to get started. Perhaps the most important lesson we learned was that it doesn't take a lot of expensive and ultra-modern equipment to produce a podcast. In fact, our early podcasts were produced using old analogue equipment, with microphones that were over 20 years old. When we wanted to be more mobile, we recorded onto audio cassette, using a professional quality Sony Walkman recorder.

These days the podcasts are usually recorded on a Saturday with four to six of us in one room. We use inexpensive PC headsets which allow us to hear the audio through the headphones and record with the attached microphone. This type of microphone helps to pick up the voice of softer-spoken contributors but leads to another problem. The headsets normally only work when connected to the soundcard of a PC from where they get their power. We wanted to connect our headsets directly to the mixing desk, meaning we would have to overcome the problem of supplying power to the headsets. Such separate power supplies are not commercially available so we custom-built our own.

This, along with an extra microphone pre-amplifier, added to the cost, but by putting the microphones through the mixing desk we have more control over the sound levels. Only the sound operator uses professional quality earphones to be able to adequately monitor the quality of the recordings. All of this is then connected up to the computer, in our case an Apple PowerBook G4, which is used for the actual recording and is




Connection diagram of the TTCS system

CARTOGRAPHICS: HEEMSKERK

TRINIDAD AND TOBAGO COMPUTER SOCIETY


probably the most expensive part of the setup (see diagram).

The software used for the recording is a commercial programme, called CD Spin Doctor 2. We originally used the free, open source programme, Audacity, on the Macintosh, but it had a few problems with recording. At some point we may revisit Audacity, but for now, CD Spin Doctor works fine. However, we still use Audacity for editing. The raw audio file created from a single recording is usually somewhere between 90 and 120 minutes, so it has to be edited down to make the podcast more listener friendly. We remove awkward pauses and instances where someone might repeat themselves at the beginning of a statement.

It is also important to check for comments that might be made innocently, but may lead to legal problems later. Those have to be edited out, or 'bleeped' out, depending on which fits the edit and flow of the conversation better. The 'bleep' was custom made, using an old sound effects programme called SoundMaker, shareware software that is available for a relatively low price.

To give the podcast a more professional sound, opening and closing music was composed with GarageBand a programme that came with the Apple PowerBook G4. That was very much a group effort, with several people pitching in ideas about modifying the timing and choice of instruments.

Once all that is done and we are happy with the final result, the file is compressed using iTunes. The file has to be as small as possible to make it available to people who have slow Internet connections, so we usually save it as a mono file with a low bit rate, giving us a final file size of between 8 and 15 megabytes.

## Time consuming

Topics covered in our podcasts have included the launch of 3G mobile Internet services, the problems of copy-protected CDs and the use of open source software. But there is a lot more to the podcasting process than we had originally thought, and it is much more tedious in reality than we had ever imagined. If you count all the pre-recording discussions where we decide what topics to discuss and the order in which to discuss them, add in the recording time and the editing time (roughly four to five hours to edit an average episode), it can take around 12 hours to produce a typical 60-90 minute podcast. We have continued to record podcasts but we all work long hours and simply have not had the time to edit them properly.

In future podcasts we will attempt to include people in the recording who can't physically make it to the recording site. When our resources permit, we hope to offer group members from rural communities the chance to contribute by providing a 'call-in' service. Using Skype or similar technology, people in outlying areas will be able to contribute remotely to the recording.

On the whole, podcasting development in the Caribbean will depend heavily on the availability of Internet bandwidth which, in many cases here, is in the hands of a telecom monopoly. This is unfortunate, because podcasting is a great way of catering to people who the mainstream media do not consider because they might be in a small, niche market and not financially interesting.

For us, producing the podcasts has been both a learning experience and great fun. We have received appreciative comments from those unable to attend our meetings and opinions expressed on the podcasts are sometimes discussed at later meetings. In other words, podcasts have helped us to realize our goal of 'networking computer users'. ■

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www.ttcsweb/podcasts

# Local content in local voices

New technology is becoming more accessible to rural communities in the Cajamarca region of Peru in this podcasting experiment. Farmers can now get relevant information in a language they can understand. ICT Update spoke to David J. Grimshaw and Rocio Ara of Practical Action.

Pastoral farmers have lived in the Cajamarca region of northern Peru for more than 3,000 years. Traditional crops of potatoes, beans and cereals are still extensively grown, while the equatorial climate in this part of the Andean mountain range provides a good environment for cultivating vines. Cattle also graze the steep mountain slopes, supplying milk to make the cheese and other dairy products for which Cajamarca is famous.

Radio has been used to reach the farmers here but broadcasting projects can be expensive to set up and there are often regulatory problems to be overcome. Radio remains popular, however, among the rural communities, indicating that people prefer to listen to important information rather than read it in leaflets or other published material. But a low cost solution was needed, especially as the state no longer provided local agricultural extension services. After a two-year research project conducted by Practical Action (formerly known as the Intermediate Technology Development Group, ITDG) and Cranfield University in the UK, it was decided that podcasting could provide such a solution.

Targeted messages, in simple, easy-to-understand language, are produced and made available on the Internet. Users subscribe for free to the service and automatically receive regular updates. To make each podcast more accessible to the wider farming community, local information centres with Internet connections make audio CDs or copy the files onto digital audio players. Farmers can then listen to the podcasts at any convenient time. They are also able to rewind and replay the parts of the information they might at first not understand. The podcasts are also broadcast on radio, offering the opportunity for people with traditional receivers to hear the same information. In fact, it was this mix of old and new technologies that contributed largely to the success of this project.

## Beginnings

Many ICT projects face the challenge of sharing information with people who have little experience of the technology. Low levels of literacy, little time or money, limited specialized knowledge or the necessary language requirements to use the technology all contribute to making ICT projects seem complicated and difficult to use. The ITDG-Cranfield University project called this the 'challenge of connecting the first mile'. The researchers wanted to find a low-cost solution to this problem and build a bridge between the seemingly complicated technologies and the people who are supposed to use them.

FLIP FRANSSEN / HOLLANDSE HOOGTE

The local economy in rural Cajamarca depends primarily on agricultural and dairy production. Since the extension services were disbanded the information needs of smallholder farmers and local producers have been covered by the Rural-Urban Information System (SIRU). The SIRU project uses eight local information centres to link rural communities to information providers such as government bodies and NGOs working in the region.

As these centres developed, it was noticed that there were often queues of people waiting to use the telephone but nobody was using the computer based Internet services. People in the market would be listening to radio. It was obvious then that voice was the most important communications medium – it overcame any issues of literacy or language or fear of the computer. Voice had long been the method of sharing knowledge through story telling in the evenings. Information was spread simply by talking, but one person's voice can only reach a limited number of people.

To try to reach a larger audience, podcasts (audio files) were incorporated into the SIRU information system that had already been operating for over three years. Their website was used as a location for listing all the available podcasts which were downloaded at the information centres. Three target audiences were selected according to the crops produced in each area: taya producers in San Marcos, vine growers in Chilete, who received information on grape growing, and dairy producers in Chanta Alta who were given practical information on cattle raising and milk production. However, because local farmers and others for whom the information might be relevant did not have access to mobile mp3 players, CDs and audio tapes were produced and broadcast on the radio. The project used a mix of old and new technologies according to the needs of the end users.

Links to local radio stations were also established, where possible, so that the podcasts could be broadcast on the air. But people would visit the administrator at the Chilete information centre, Elita Plascencia, and ask about programmes their neighbours had listened to and whether they were going to be aired again. She concluded that the demand for this information had not been completely satisfied by the radio programmes. She then suggested recording the shorter programmes onto audio tapes, but she also thought of using music between programmes. In doing this, she contributed to creating an audio programme that does not lose value over time and is less transient than the version produced by the local radio station. The information was therefore available to farmers at their request.

Podcasting not only reduced the cost and made the production process easier it also helped to increase information dissemination and to focus on the target audience. Radio on its own is a powerful dissemination medium as it covers large areas and listeners become involved and even emotionally attached to specific programmes. It was this combination of old and new technologies that was key to the success of the SIRU podcast project. The use of mixed media in this project was a direct result of listening to the needs of the users.


## Future prospects

The main target audience in Peru was perceived to be poor people in remote rural areas whose lives could be changed with specific, targeted information. One problem with this approach was that the project would first have to stimulate the demand, and then find ways of keeping the information up to date and relevant. The project team recognizes that in the future they could begin by concentrating more on the those who already produce information and teach them how to create audio material. That might overcome the problem of keeping the information up to date. This case shows that there needs to be an approach which listens to the needs of potential users and balances this with a sensitive and appropriate (old and new) technology adoption strategy.

The project in Cajamarca was set up to test the technology in terms of finding out the benefits to local people and the value it could add to their livelihoods. Future plans from Practical Action include adding audio information to the 'Janathakshan' portal in Sri Lanka, and providing audio information to rural communities in Zimbabwe. These will be recorded in a variety of local languages, to make them more accessible to the target audiences and therefore help to connect that important 'first mile'. ■

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**Rocio Ara**, Soluciones Prácticas ITDG, Peru.

**Related resources**

➜ Practical Action has published a report from their research, called '*Connecting the First Mile*'.
It outlines the challenges involved in sharing information with people who have little experience of ICTs, low levels of literacy, little time or money, and very specific knowledge and language requirements. It offers a detailed case study of the ICT project in Peru and provides a best practice framework for practitioners.
**http://practicalaction.org/?id=podcasting_peru**

➜ Janathakshan Rebuilding Information, is Practical Action's project site for South East Asia and is based in Sri Lanka. The project works with communities on a wide variety of issues including renewable energy, agriculture, community governance and local disaster management.
**www.janathakshan.net/en**

➜ The BBC reported on the Cajamarca project and produced its own podcast. The web report is still available entitled 'Podcasts reach Peruvian villages'.
**http://news.bbc.co.uk/1/hi/technology/4688882.stm**

➜ The Rural Urban Information System (SIRU) in Peru works to promote exchange of information and increase the capacity of decision makers and farmers (website in Spanish).
**www.infodes.org.pe/siru/**

MICHAEL McGOVERN/NONSTOCK/IMAGESTORE

# Spreading your bets

It is difficult for large organizations to target a specific audience when they produce information on a wide range of subjects. One solution is to make it easier for people to find their stories.

Until very recently, the means of mass communication were exclusively in the hands of large corporations and governments. But with the advent of the Internet and digital technology, mass communication is now within the reach of ordinary people.

With the massive amount of information that is now available on the web it is difficult for organizations like UNICEF to target specific audiences, especially as we produce a wide variety of content ourselves. Visitors to our website might only be interested in programmes from Bangladesh, for example, while others might look for everything we have on HIV/Aids. In order to make sure our message gets out we have to make it easy to find. One way of doing that is to spread the material around as widely as possible, and that means using every available platform – television, radio, text on the web and on paper, and now also podcasting. It's a bit like roulette, where the audience is the ball that spins round and round and you don't know which pocket it will fall into. But you can win at roulette if you spread your bets, and put a chip on every number on the board. If you can somehow put your message, your story, onto every single platform then eventually the audience will find you.

At UNICEF, we felt we had as much right to contribute to the information buffet as any other organization, and podcasting was one way to do that. Since launching the podcasting service in July 2005, we have added to that vast, ever-growing stream of information in an effort to give people the opportunity to learn about our work and hopefully support us. We now have more than 200 podcast files on our website, which people can subscribe to for free. This enables them to receive automatic updates with any new podcasts, while the older material is archived and is available to anyone who might be interested in just downloading a single file.

## Future audience

Podcasts are relatively cheap to produce. Ten years ago, if you wanted to set up a radio station, you would have to borrow money from your rich uncle, then figure out where to put the transmitter, and then get government approval. But now the Internet is the transmitter, and it has the potential to reach everybody in the world. Once the podcast has been produced, and 'transmitted', it can be downloaded by anyone connected to the Internet, saved and even shared. This is the concept of the 'long tail', where content you create today survives forever. It can be accessed at any time, it can be reused and it can be passed around. That is something that suits many of the UNICEF podcasts. A lot of our material is issue driven and timeless in that it will still be relevant a week, a month, a year, and hopefully even ten years from now.

The fact that these audio files can stay around for so long, on our website or on other computers and media players, means that we can reach audiences that do not need it right now, but might find it useful some time in the future. That becomes important when you think about the number of people who don't yet have access to the Internet. When they eventually do get connected, these stories will still be there when they need them. The content being produced now will still be available to audiences we don't yet have.

It is also very encouraging that people in developing countries are increasingly getting connected to the wider world. I have visited isolated rural areas where I have met farmers who don't have shoes, but they do have a mobile phone. That's because the human desire to be connected to people sometimes outweighs other priorities. As a species we need to talk to each other. And as technology progresses, particularly mobile Internet technology – and it is progressing very rapidly – then those farmers will no longer be isolated, and it will no longer matter how rural or remote their farms. They will soon have access to the ever-growing quantity of information that is being continually produced.

UNICEF's real aim is to get our information out onto as many platforms as possible, and podcasting is one way to do that. It is clear that unicef.org will never be the most visited website on the planet. It is very much like an institutional headquarters in cyberspace where everything is archived and catalogued, and hopefully people will meet there. As long as we tell good stories, stories that people want to hear, then the platform doesn't matter. UNICEF is now trying to do it in television. I hope we do it in radio, text and, of course, that we can also continue to do it with podcasting. ■

**Stephen Cassidy** (scassidy@unicef.org) is an Emmy award-winning journalist, and former deputy managing editor at CNN. He is currently chief of the Internet, television, radio and image section at UNICEF headquarters in New York. UNICEF podcasts are available at www.unicef.org/videoaudio

# Podcasting basics

## Where to find podcasts

Increasing numbers of websites offer podcasts. There are also podcast directories that you can use to find the podcasts of interest to you. These directories list often hundreds of podcasts, grouped per genre or theme:

Podcast Alley *www.podcastalley.com*
Odeo *www.odeo.com*
Indie Plodder *www.indiepodder.org*

## How to listen to a podcast

**1. Choose and install a podcast receiver program**

To listen to a podcast you first need to install a software program on your computer. These podcast receiver programs are usually free and easy to download. Popular programs include:

Juice *http://juicereceiver.sourceforge.net*
iTunes *www.apple.com/itunes/store/podcasts.html*

There are many other programmes to choose from and Podcasting News is a good place to find them (*www.podcastingnews.com/topics/Podcast_Software.html*).

**2. Subscribe to a podcast**

Subscribe to individual podcasts with the podcast receiver program. Sometimes the software has its own directory for selecting podcasts.

Alternatively, when visiting a website, click on the icon or look for 'Add' or 'Subscribe' buttons. The web address is then added to the receiver program similar to 'bookmarking' a website. Sometimes it is necessary to paste the web address into the receiver program. Each program is slightly different, but they are all self explanatory.

Once you have subscribed, the software checks for updated podcasts from that source, usually called a feed, and will automatically download the files.

You can then play the downloaded podcast on a computer or media player.

Most podcasts are free and you can unsubscribe at any time, just click the 'Clear' or Unsubscribe' button.

## How to make your own podcast

The essential equipment for producing a speech-based podcast includes:

- a microphone
- headphones
- a computer
- audio recording and editing software
- podcast publishing software
- an Internet connection.

Many people use a mixing desk but this is not always necessary because recording levels can usually be controlled by the recording software. Mixing different sound sources can be done using the editing programme. Use headphones to check that the levels are not too loud and the sound is not distorted. It is worth spending money on a good microphone as this alone can greatly improve the quality of your podcast. Try to record in a room with soft surfaces as this will reduce the echo. If that is not possible then hanging jackets or blankets on a circle of chairs can help a lot. Also, the microphone can pick up noise from computers, electric lighting or other sources not always audible to the human ear. Therefore, use the headphones to listen for any annoying buzzing or whining background sounds.

**Software**

Audacity (*http://audacity.sourceforge.net*) records and creates audio files.

You can also use it to edit out long pauses or mistakes, which will improve the quality of your podcast. Audacity is free to download, as is EasyPodcast (*www.easypodcast.com*) which you need to publish the final podcast. There are several other programs that perform the same functions, plus programs that combine these tasks, for example ePodcastcreator (*www.industrialaudiosoftware.com/products/epodcreator.html*)

For a list of podcasting software, look at Podcasting News. (*www.podcastingnews.com/topics/Podcasting_Software.html*).

Producing and publishing a podcast involves three steps:

**1. Create content**

The recording software records audio from the microphone, or other sources - CD player, portable recorder - directly onto the computer via the sound card, usually at the back of the computer where you also plug in external speakers.

**2. Convert audio files to mp3 format**

Mp3 is the standard format for podcasts and all the recording programmes allow you to save or export audio files in mp3 format. Before exporting, add information tags to the file: title, year, genre, brief introduction. Use podcast publishing software to publish the file on a website.

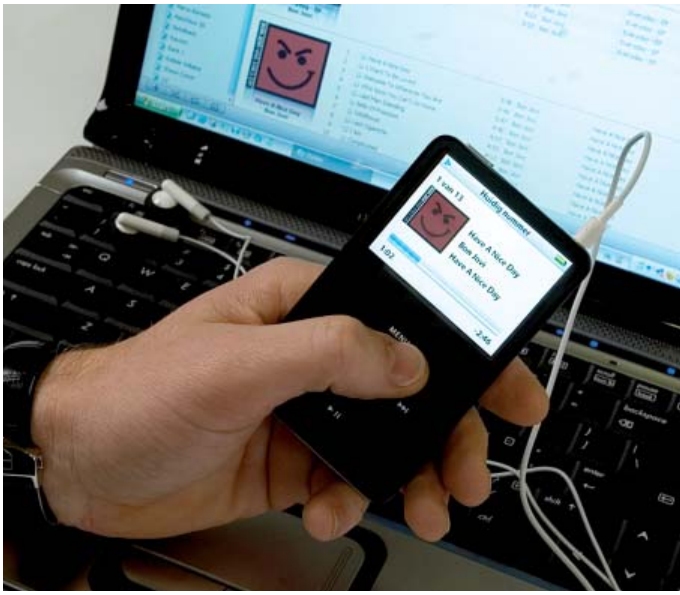
**3. Create a podcast feed and publish it on the web**

To ensure your audio file is automatically downloaded to subscribers, it has to be syndicated as an rss file. This describes your podcast and includes information on each audio file. An rss file is relatively simple to make, any text editor can do it, but it is easier to use software that automatically generates newsfeeds. Post the rss file onto your website and include one of the recognizable icons above.

For a brief introduction of to rss, check the article Understanding rss Feeds (*www.podcastingnews.com/articles/Understanding_RSS_Feeds.html*).

All that is left is to publicize the podcast by adding it to one or more podcast directories for listeners to find.

The process is relatively simple but can be time consuming. You can follow these steps yourself, but it will be much quicker if someone with experience helps you with the first podcast. ■



PERSBUREAU VAN EINDHOVEN/ANP

# Q&A

**Susie Emmett** (susie.emmett@talk21.com) is a communication specialist in radio and new media, working with WRENmedia in Suffolk, UK. (www.wrenmedia.co.uk)

# Podcasting and agricultural information

**What are the advantages of podcasts over radio broadcasts?**
➜ The big advantage of podcasts is that they can be listened to at any time or anywhere that is convenient. Producers of radio programmes who are trying to target farmers no longer have to worry about when the best time to broadcast is – at 4 am when the farmer has just got up, or at lunchtime when he or she finally has a moment to sit down?

Podcasts are different because listeners can play them back at any time. They can be paused, repeated, shared and stored, and that is really something special. People don't have to remember exactly what the presenter said in that fleeting moment on radio. Those who are confused or feel that they don't fully understand the information can simply replay the broadcast as many times as they need.

For many people it is great to listen to the radio with other people, with the family for example, especially the soaps. But you don't often get professionals, such as farmers, who sit down and listen to a radio programme together. For one thing, where would they go to do that? The audio medium tends to be much more personal. If you can listen to a podcast on your own, and access it whenever you like, as often as you like, and even take a break and come back to it, then that's a great thing.

**Could podcasting be applied to agricultural extension?**
➜ Definitely. Farmers and agricultural extension workers are a niche audience due to their locations, how they work and the seasonal demands on their time. Reaching them using conventional media, particularly conventional FM broadcasting, is quite a challenge. Because of this they are especially in need of up to date technical information or even inspirational advice. Agricultural researchers also tend to work in far-flung, often under-resourced institutions, so any low-cost medium that potentially can carry high-impact information has great possibilities. Podcasting can also be international, as the cost is the same no matter whether the content is delivered to someone in the next office, or the next regional research station, or to a rural extension office on another continent.

**Is podcasting technology available to people in the rural areas of developing countries? Or will it take time before they have access?**
➜ Slow and expensive Internet connections will remain a problem until we resolve the issue of who will pay for the improvements to ultimately make the Internet more accessible. But the price of mp3 players is falling dramatically, and that could make a big difference. It is almost getting to the point where they could be given away with information already on them. However, the short life of batteries remains a problem, especially if they have to be recharged from the mains or by being linked to a computer. But on the whole, mp3 players are small, durable and robust, which is very important, especially compared with the big cumbersome cassette players used by farmer listening groups in many countries. Mp3 players are so much smaller and are becoming just as affordable.

**Some podcasts are very professionally produced, with music and voice-overs. Can individuals also use podcasting to make their voices heard?**
➜ What is very interesting is the amateur 'lone voice' podcasts. They can be more popular than the slick, professionally produced ones. The big companies will always be in the top ten due to the amount of marketing they put into it, but there are some very quirky, individual podcasts that make it up through the ratings just because someone has got something interesting to say.

I certainly see podcasting as a way of sharing information. It doesn't always have to be about people in rural areas receiving information; they should be able to get their own message out too. But at the core of all this is that fact that the spoken word is what makes this planet tick. Visuals are good, but we don't talk in pictures, we talk in words. So as long as we remain an oral planet, then good podcasting will have a place. But it does have to be good.

**What makes a good podcast?**
➜ It's often the simple things, like humour or real life stories. People like listening to others talking about their own lives and situations. If they've got a good idea or something has worked, then people want to hear about it. If something has gone wrong then they like to hear about that too. And that often gets lost in a lot of agricultural and development speak – it's the life story that gets people involved. By the time it goes through policy, research and extension work, the soul has disappeared from the message. Podcasting can help put that back.

The need remains to offer information, ideas and inspiration to farmers, those helping farmers, and to rural communities to overcome their problems. It's not the medium that's important, it's the message. Use whatever technology you like, but if the message isn't relevant or interesting, then forget it. But if you believe that information and communication can contribute to the process of development, then podcasts must be included as part of the ICT portfolio. ■

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**WRENmedia** publishes the *New Agriculturalist*, an online magazine and podcast featuring agricultural news for the research and development community. (www.new-agri.co.uk)

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